AMENDMENTS TO THE CLAIMS

1. (Original) A method comprising:

using at least one mobile data collector, having mobility that is unpredictable to a wireless sensor network, for performing at least one of data collection from and data communication to at least one sensor in said wireless sensor network.

2. (Original) The method of claim 1 further comprising:

deploying a plurality of said mobile data collectors, each having mobility that is unpredictable to the wireless sensor network.

3. (Original) The method of claim 2 further comprising:

said mobility of said plurality of mobile data collectors resulting in a pattern of accesses of said at least one sensor in said wireless sensor network by ones of said plurality of mobile data collector that is unpredictable to said wireless sensor network.

4. (Original) The method of claim 1 wherein said mobility that is unpredictable to said wireless sensor network comprises a travel schedule of said at least one mobile data collector that is unpredictable to said wireless sensor network.

5. (Original) The method of claim 1 wherein said mobility that is unpredictable to said wireless sensor network comprises a travel route of said at least one mobile data collector that is unpredictable to said wireless sensor network.

6. (Original) The method of claim 1 further comprising:

said at least one mobile data collector determining if it is in range for wireless communication with said at least one sensor; and

if determined that said at least one mobile data collector is in range for wireless communication with said at least one sensor, said at least one mobile data collector communicating a wake-up signal to said at least one sensor to cause it increase its power to level suitable for communication.

7. (Original) The method of claim 1 further comprising:

distributing sensors, including said at least one sensor, in the wireless sensor network, wherein the sensors are operable to capture measurement data for a feature of interest.

8. (Original) The method of claim 1 wherein said at least one sensor is operable to perform at least one of the following: capture measurement data for a feature of interest, sensing, actuation, computation, data storage, and forwarding data.

9. (Original) The method of claim 1 wherein said mobile data collector comprises a general-purpose mobile communication device.

10. (Original) The method of claim 1 wherein said mobile data collector comprises one selected from the group consisting of: cellular telephone, personal digital assistant (PDA), laptop computer, pager, and a wireless communication device in a vehicle.

11. (Original) The method of claim 1 wherein said at least one mobile data collector forms transient communication links with said at least one sensor.

12. (Currently Amended) The method of claim 11 wherein ~~the~~ times at which said transient communication links are formed are unpredictable to the wireless sensor network.

13. (Original) The method of claim 1 further comprising:

during a transient communication with said at least one mobile data collector, said at least one sensor communicating data with at least one of (a) timestamp information and (b) spatial location information.

14. (Original) The method of claim 13 wherein the timestamp information provides a relational time reference for the data.

15. (Original) The method of claim 14 wherein the timestamp information identifies when the data was captured by a sensor of said wireless sensor network.

16. (Original) The method of claim 13 wherein the spatial location information provides a relational spatial position reference of a sensor of said wireless sensor network that captured the data at the time of its capturing the data.

17. (Original) A method comprising:

deploying a plurality of mobile collectors that are each operable to communicatively access a node of a wireless sensor network and that are each independently movable; and

employing an application that desires communication access with at least one node of the wireless sensor network, wherein said application relies on statistical probability that at least one of the plurality of mobile collectors will travel in communication range of the at least one node of the wireless sensor network for performing the desired communication.

18. (Original) The method of claim 17 wherein said application is a distributed application.

19. (Original) The method of claim 18 wherein said application is at least partially distributed among said plurality of mobile collectors.

20. (Original) The method of claim 17 wherein mobility of said plurality of mobile collectors is unpredictable to said application.

21. (Original) The method of claim 17 wherein a pattern of access of said at least one node of the wireless sensor network by said plurality of mobile collectors is not predefined for said application.

22. (Original) The method of claim 17 wherein a pattern of access of said at least one node of the wireless sensor network by said plurality of mobile collectors is not predictable to said application.

23. (Original) The method of claim 17 wherein said desired communication comprises at least one of a) collecting data from said at least one node of the wireless sensor network and b) communicating data to said at least one node of the wireless sensor network.

24. (Original) The method of claim 17 wherein said desired communication comprises periodic communication access with said at least one node of the wireless sensor network.

25. (Original) The method of claim 24 wherein said periodic communication access is desired to have a latency between accesses of the at least one node of no more than a threshold period.

26. (Original) The method of claim 17 wherein the application is operable to calibrate data received from the plurality of mobile collectors.

27. (Original) The method of claim 26 wherein calibrating data comprises resolving conflicts between data received from the plurality of mobile collectors.

28. (Original) The method of claim 26 wherein calibrating data comprises organizing data received from the plurality of mobile collectors.

29. (Original) The method of claim 26 wherein when any one of said plurality of mobile collectors communicatively access said at least one node of the wireless sensor network, said at least one node of the wireless sensor network communicates data with at least one of (a) timestamp information and (b) spatial location information to said one of said plurality of mobile collectors.

30. (Original) The method of claim 29 wherein said timestamp information provides a relational time reference for the data.

31. (Original) The method of claim 30 wherein said timestamp information identifies when the data was captured by a node of the wireless sensor network.

32. (Original) The method of claim 30 wherein said spatial location information provides a relational spatial position reference of a node of the wireless sensor network that captured the data at the time of its capturing the data.

33. (Original) The method of claim 30 wherein the application bases its calibration at least in part on at least one of the timestamp information and spatial location information.

34. (Original) A system comprising:

a wireless sensor network having a plurality of nodes, wherein at least one of said plurality of nodes comprises

a) an interface for communicating via wireless communication with other nodes of said wireless sensor network and

b) an interface for communicating via a transient communication link with a mobile collector;

at least one mobile collector comprising a first interface having a first range of communication for communicating with a node in said wireless sensor network, and said at least one mobile collector comprising a second interface for communicating with a node external to said wireless sensor network wherein said second interface is operable for communicating a range longer than said first range; and

wherein said node external to said wireless sensor network relies on said at least one mobile collector for accessing said wireless sensor network for performing at least one of a) collecting data from said wireless sensor network and b) communicating data to said wireless sensor network, and wherein an access pattern of said at least one mobile collector accessing of said wireless sensor network is not predefined.

35. (Original) The system of claim 34 wherein said transient communication link is a wireless communication link.

36. (Original) The system of 34 wherein said interface for communicating via wireless communication with other nodes of said wireless sensor network and said interface for communicating via a transient communication link with a mobile collector are a common interface of said at least one of said plurality of nodes.

37. (Original) The system of claim 34 wherein said at least one mobile collector is implemented in a general-purpose communication device.

38. (Original) The system of claim 34 wherein said mobile collector is implemented in a cellular telephone.

39. (Original) The system of claim 34 wherein said first interface of said at least one mobile collector is operable to communicate via at least one of a) Bluetooth and b) 802.11 communication protocols.

40. (Original) The system of claim 34 wherein said second interface of said at least one mobile collector is operable to communicate via cellular communication.

41. (Original) A system comprising:

a wireless sensor network comprising a plurality of means for measuring a characteristic of an environment and communicating via short range wireless communication; and

a plurality of means for accessing at least one of the measuring means for performing a desired communication therewith, wherein said plurality of access means are independently movable and are capable of travelling outside communication range of the wireless sensor network, and wherein a statistical probability exists that at least one of the accessing means will travel within range of said at least one of the measuring means to enable the accessing means to perform the desired communication with said at least one of the measuring means.

42. (Original) The system of claim 41 wherein the accessing means are each implemented in a general-purpose communication device.

43. (Original) The system of claim 41 further comprising:

means for processing measurements made by the measuring means, wherein the processing means relies on the statistical probability for receiving measurements made by the measuring means from the accessing means.

44. (Original) The system of claim 41 further comprising:

at least one processing means that is located outside said communication range of the wireless sensor network, wherein the at least one processing means relies upon the accessing means for performing said desired communication with said at least one of the measuring means and wherein said desired communication comprises at least one of a) receiving measurement information from said at least one of the measuring means and b) communicating information to said at least one of the measuring means.

45. (Original) A method comprising:

using at least one mobile data collector for performing at least one of data collection from and data communication to at least one node of a wireless sensor network;

said at least one mobile data collector determining if it is in range for transient communication with said at least one node; and

if determined that said at least one mobile data collector is in range for transient communication with said at least one node, said at least one mobile data collector communicating a wake-up signal to said at least one node to cause it to increase its power to a level suitable for communication.

46. (Original) The method of claim 45 wherein said wake-up signal comprises a radio frequency identification (RFID) signal.

47. (Original) The method of claim 45 wherein said transient communication comprises wireless communication.

48. (Original) The method of claim 45 wherein said at least one mobile data collector has mobility that is unpredictable to the wireless sensor network.